

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

January 1965

PART II—Fishing Information*

Sea-surface temperatures, fishing and research information
of interest to the West Coast tuna-fishing industry
and marine scientists

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*Part 1 - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, Post Office Building, San Pedro, California

MIGRATION OF SEABIRDS

The Smithsonian Institution, Washington, D.C., recently forwarded the following notice to this laboratory:

ATTENTION!

Hundreds of thousands of far-traveling ocean birds of many kinds are being captured, marked, and released on mid-Pacific islands in a widespread study of sea bird migration by the Smithsonian Institution, Washington, D.C. Although it is known that some kinds of birds perform remarkable annual migrations of 10,000 miles or more over the North and South Pacific Oceans, the regular travels of most species are unknown or poorly understood.

To learn more about the migrations of seabirds, Smithsonian ornithologists have captured and marked over 300,000 birds of 28 different kinds in the Central Pacific with standard, numbered, United States Fish and Wildlife Service aluminum legbands. Of these, over 60,000 have been marked with 4 inch colored plastic leg-streamers.

Anyone coming into the possession of a banded dead bird in the Pacific Ocean Area is asked to cooperate by returning the band, together with time and place of recovery, as instructed on the band. For live birds, only the band number together with time and place of capture need be sent to the directed address, after which the bird should be liberated so that its further travel may be traced.

Anyone sighting a bird with a colored leg-streamer anywhere in the Pacific Ocean Area is asked to cooperate by recording the name or description of the kind of bird wearing the streamer, the color of the streamer, the date seen, and the latitude and longitude or approximate location of sighting. All information on birds with colored leg-streamers should be sent as soon as possible to:

Division of Birds
Smithsonian Institution
Washington, D.C. 20560

EACH COOPERATOR WILL BE ADVISED WHERE THE BANDED OR COLOR-MARKED BIRD WAS TAGGED.

--YOUR HELP IS NEEDED--

SHARK TAGGING IN THE EASTERN PACIFIC

Biologists of the Bureau of Commercial Fisheries Tuna Resources Laboratory, La Jolla, returned in late December from a shark-tagging trip to Mexican waters. The cruise was sponsored by the Office of Naval Research and the Shark Research Panel of the American Institute of Biological Sciences, who are interested in contributing to our knowledge of the life history of sharks, of which so little is known. Some 550 sharks of various species were tagged near the Mexican coast between Topolobampo and San Blas, and at Socorro, San Benedicto, and Roca Partida in the Revillagigedo Islands. Including previous tagging conducted from the purse seiners Royal Pacific and West Point in 1962, a total of about 1000 tagged sharks have been released in the eastern tropical Pacific. The areas of tagging are shown in figure 1.

It is essential that some of the tagged sharks be recaptured if we are to gain information about their movements. To get these returns, we need the aid of all fishermen, especially those working in the tuna purse seine fishery.

Four different types of tags, pictured in figure 2, have been used. Recovered tags, along with information on date and place of capture, should be forwarded to the U.S. Bureau of Commercial Fisheries, La Jolla, or turned over to representatives of any fishery research agency in San Pedro or San Diego. A nominal reward of \$1.00 will be paid to those returning tags. It would be helpful, additionally, if the tagged sharks were measured (from tip of snout to base of tail) or if the entire shark could be frozen and brought to port for our pick-up.

Objectives of the tagging program are to study the growth and migration of sharks. The principal interest of the Bureau in sharks of the eastern tropical Pacific is its concern with the damage they do to tuna purse seine nets. Experiments with chemical "repellents" as a control measure have been unfruitful. Another approach to shark control is to reduce the number of sharks. The histories of the now-defunct soupfin shark fishery in California and the present shark fishery in Australia have shown that populations of sharks can be reduced significantly in a surprisingly short period of time. In fact, both California and Australia had to resort to protective measures in order to maintain their shark fisheries. In South Africa, where shark attacks to bathers had jeopardized the tourist trade, shark-meshing with gill nets off the beaches of Durban has been so successful that to date not a single attack has occurred there since the control measure was started in 1952. In Hawaii, a year-long shark eradication program conducted in 1959-1960 resulted in a fast decline of coastal sharks. Just how quickly populations can be reduced in particular areas by fishing depends on how widespread their movements are. This is one reason why the present shark tagging program was initiated, since tagging is the only positive way in which movements can be disclosed.

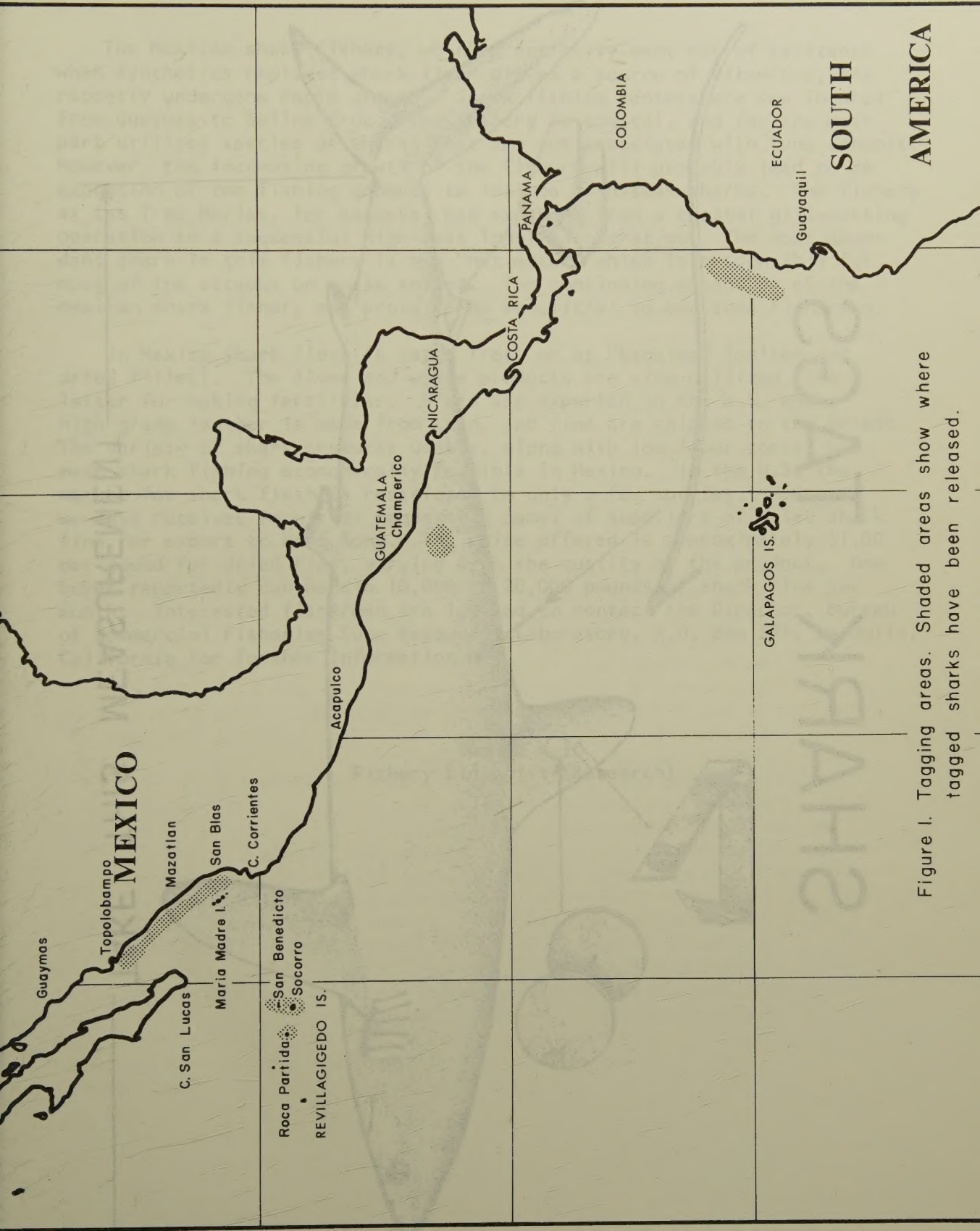
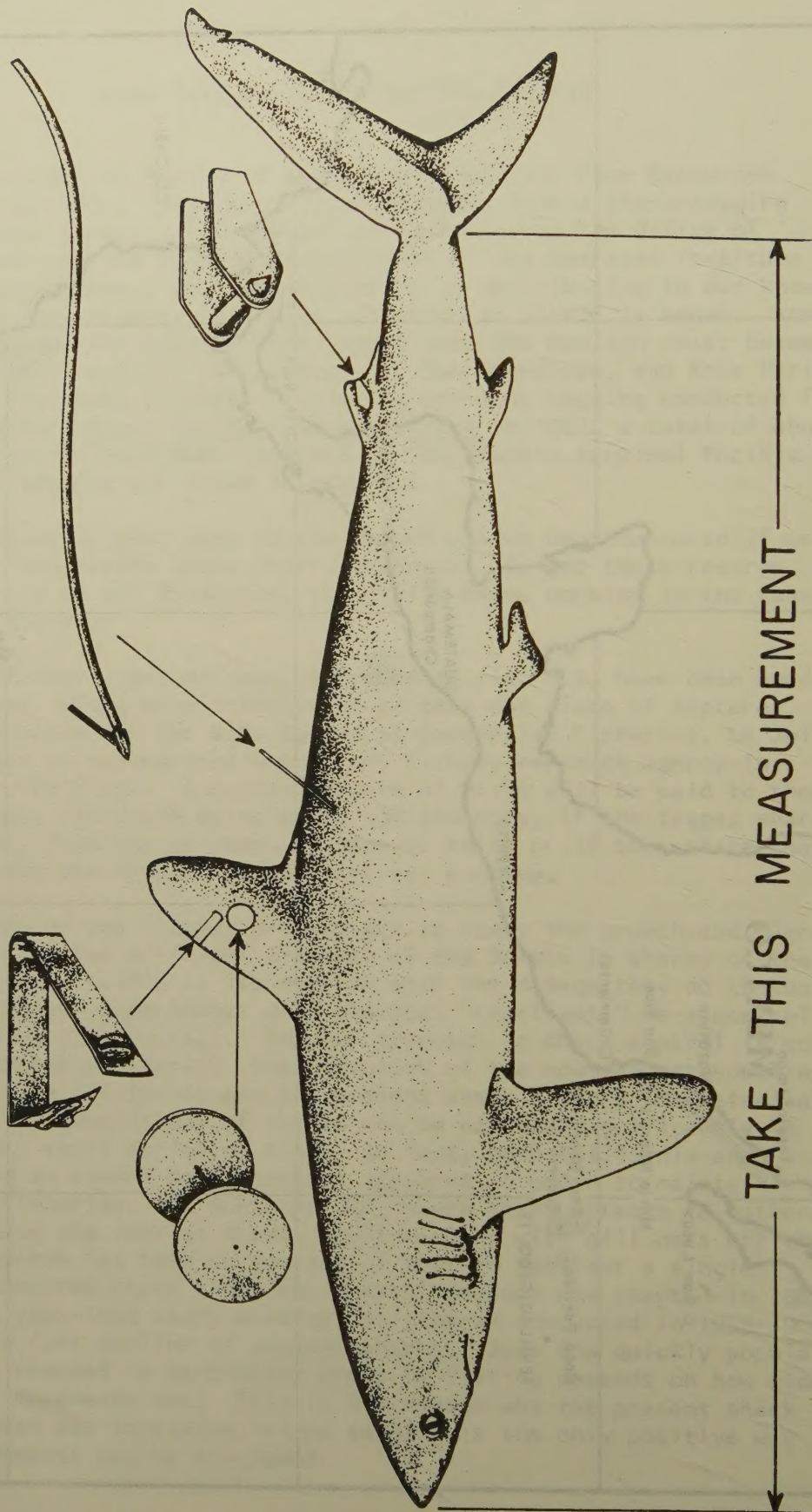


Figure 1. Tagging areas. Shaded areas show where tagged sharks have been released.

SHARK TAGS



The Mexican shark fishery, which practically went out of existence when synthetics replaced shark liver oil as a source of Vitamin A, has recently undergone rapid growth. Shark fishing centers are now located from Guaymas to Salina Cruz. The fishery is coastal, and for the most part utilizes species of sharks that are not associated with tuna schools. However, the increasing growth of the fishery will probably lead to an expansion of the fishing grounds to include high-seas sharks. The fishery at Las Tres Marias, for example, has expanded from a coastal gill-netting operation to a successful high-seas longline operation. The most abundant shark in this fishery is the "net-eater" which is responsible for most of the attacks on purse seines. The continuing expansion of the Mexican shark fishery may prove to be beneficial to our tuna fishermen.

In Mexico shark flesh is eaten fresh or as "bacalao" (salted and dried fillet). The liver and waste products are also utilized, the latter for making fertilizer. Hides are exported to the U.S. where high grade leather is made from them, and fins are shipped to the Orient. The variety of shark products usable, along with low labor costs, has made shark fishing economically feasible in Mexico. In the U.S. the market for shark flesh is restricted to only a few species. However, we have received inquiries requesting names of suppliers of dried shark fins for export to Hong Kong. The price offered is approximately \$1.00 per pound for dried fins, varying with the quality of the product. One buyer reportedly can handle 10,000 to 20,000 pounds of shark fins per month. Interested fishermen are invited to contact the Director, Bureau of Commercial Fisheries Tuna Resources Laboratory, P.O. Box 271, La Jolla, California for further information.

Susumu Kato
Fishery Biologist (Research)

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN

JANUARY 1965

Acknowledgments

The following organizations and stations contributed data for the January 1965 charts:

- U.S. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Seattle, Washington
- U.S. Bureau of Commercial Fisheries Biological Laboratories, La Jolla, California; Honolulu, Hawaii and Seattle, Washington
- U.S. Weather Bureau, San Diego, California
- U.S. Naval Communication Station Balboa, Fort Amador, Canal Zone
- U.S. Weather Bureau Port Meteorological Office, Cristobal, Canal Zone
- Guadalupe Island, Coronado Island, Ensenada, Cedros Island and Almejas Bay by Pedro Mercado of the Universidad Autonoma de Baja California, Ensenada, Mexico
- Hopkins Marine Station, Pacific Grove, California by J. P. Balesteri
- Inter-American Geodetic Survey by Rene Cortes at Salina Cruz, Mexico; David Ortega at Manzanillo, Mexico; L. A. Peren at Pt. Armuelles, Panama; R. H. Valencia at San Jose, Guatemala; V. E. Castillo at Tumaco, Columbia; G. Tapia at San Cristobal, Galapagos; S. Valenzuela at La Libertad, Ecuador; E. Lopez at Talara, Peru; Juan Andia at San Juan, Peru
- Inter-American Tropical Tuna Commission, La Jolla and Terminal Island, California
- Kelco Company, San Diego, California
- Lifeguard Headquarters, Newport Beach, California
- Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by T. Collins at Quatsino Lightstation; J. L. Fraser at Cape St. James Light; B. Stuart at Amphitrite Point Light; J. Roch at Langara Island Light
- Scripps Institution of Oceanography, La Jolla, California by Margaret Robinson and Hans Klein

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 8000 observations. Squares show temperatures at weather-ship stations. Numerals on shore are temperatures at coastal and light-ship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder than mean.

Figure 3.--Deviation of sea surface temperatures (°F) from those of January 1964. Hatched areas are colder than 1964.

Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

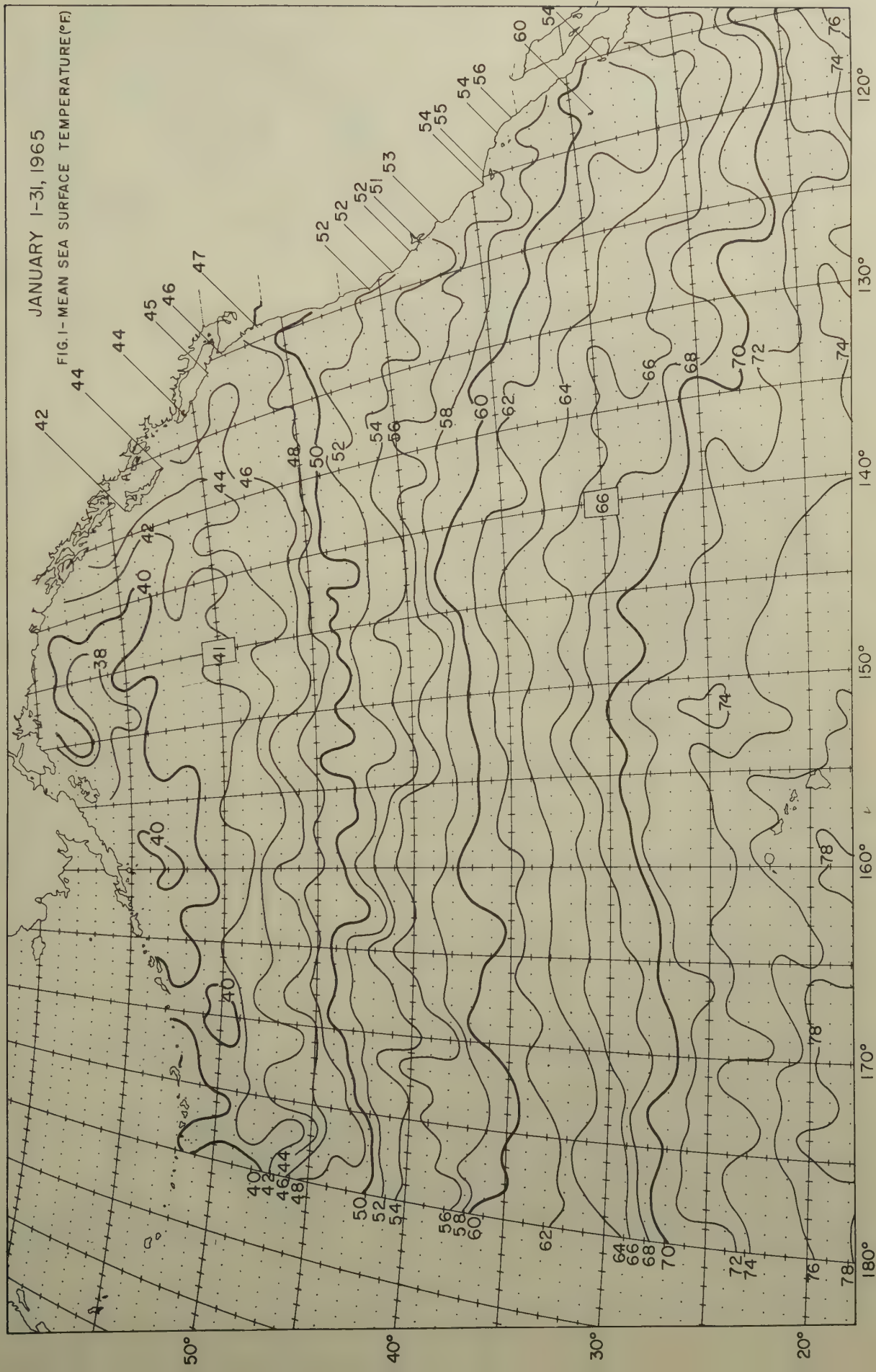
Figure 5.--Deviation of sea surface temperatures (°F) January 1965-January 1964 by 1-degree squares. Shaded areas are colder than 1964.

Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder than 1964.

James A. Renner
Fishery Biologist (General)

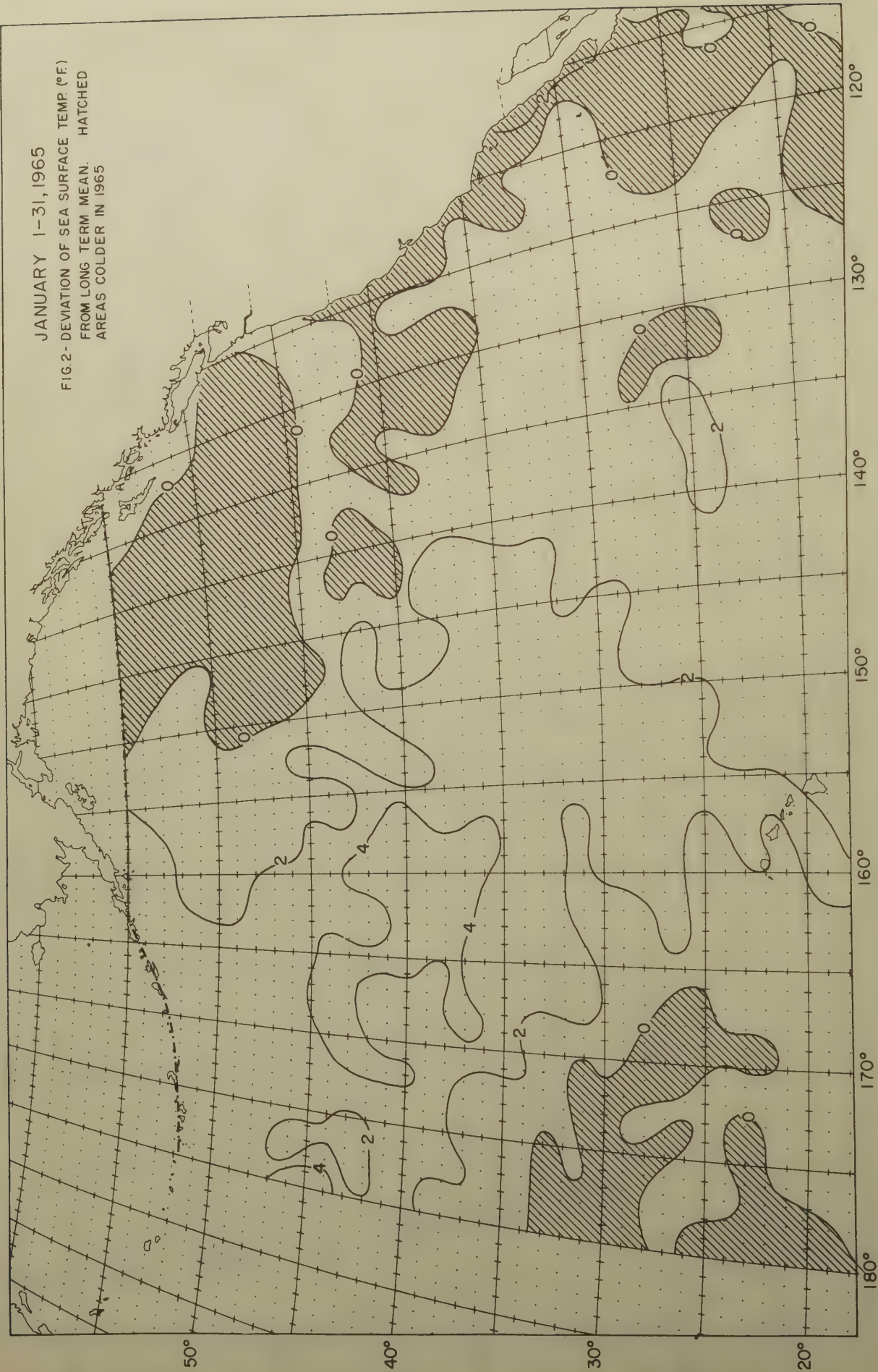
JANUARY 1-31, 1965

FIG. 1- MEAN SEA SURFACE TEMPERATURE (°F)



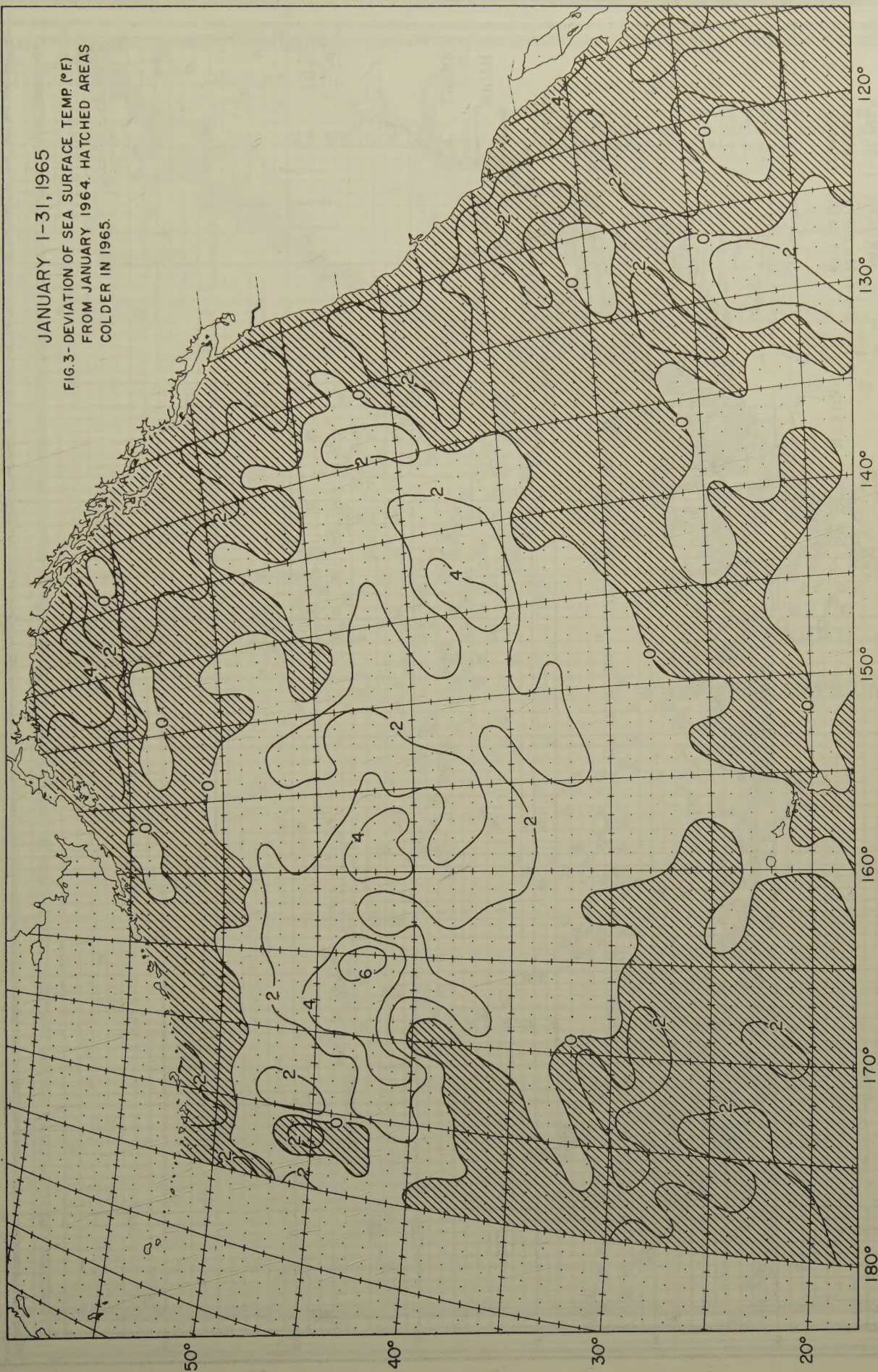
JANUARY 1-31, 1965

FIG. 2 - DEVIATION OF SEA SURFACE TEMP (°F)
FROM LONG TERM MEAN. HATCHED
AREAS COLDER IN 1965

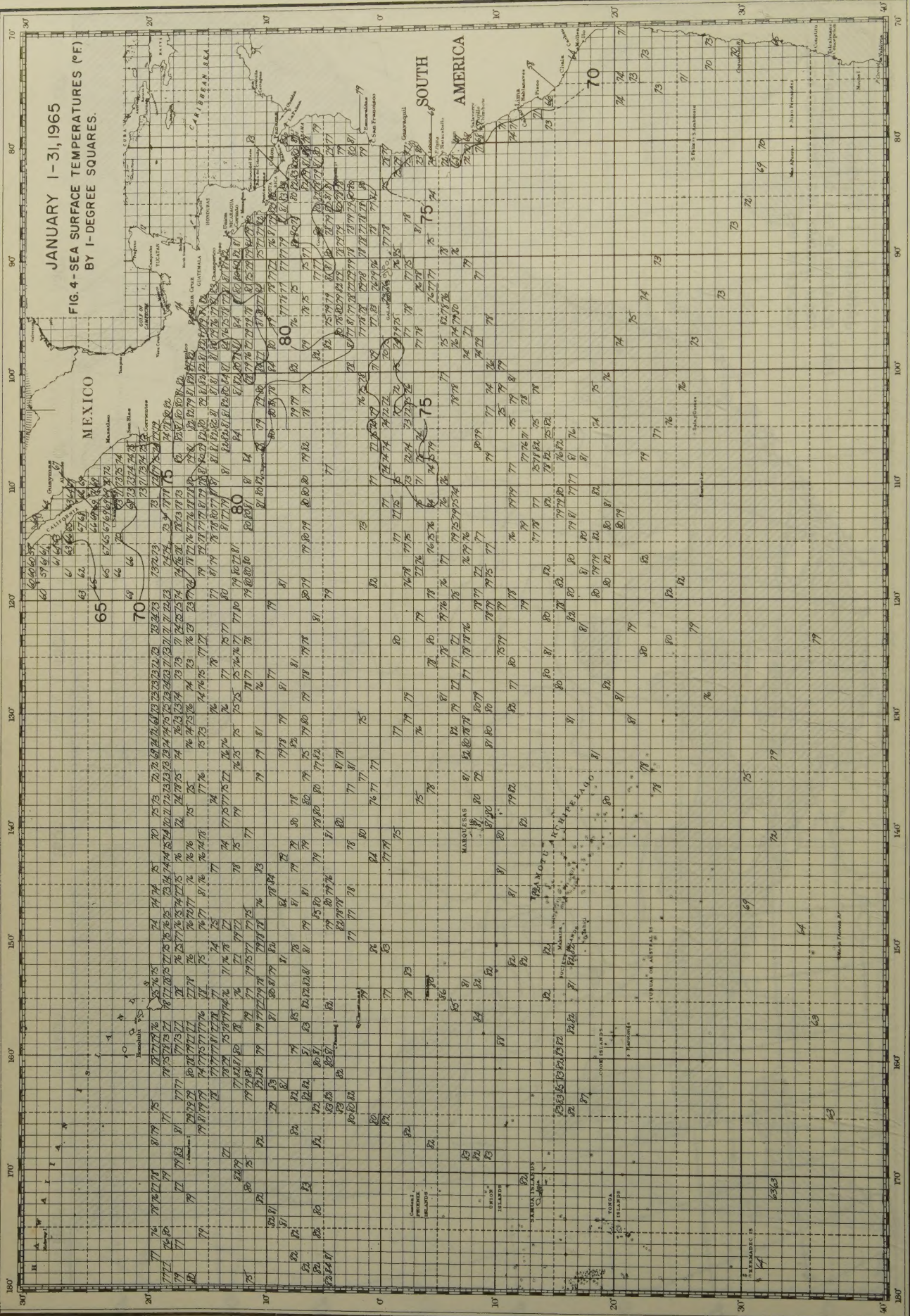


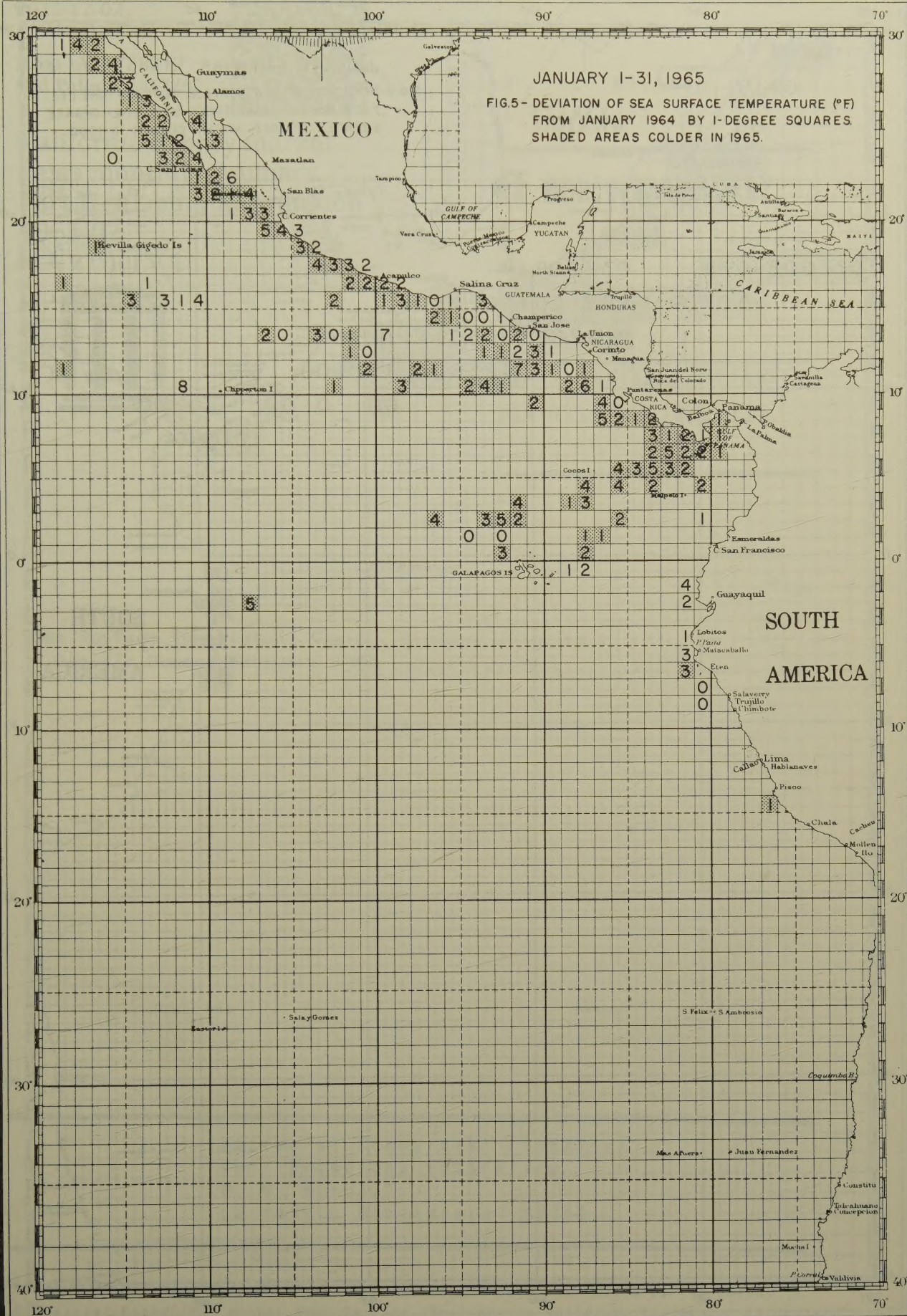
JANUARY 1-31, 1965

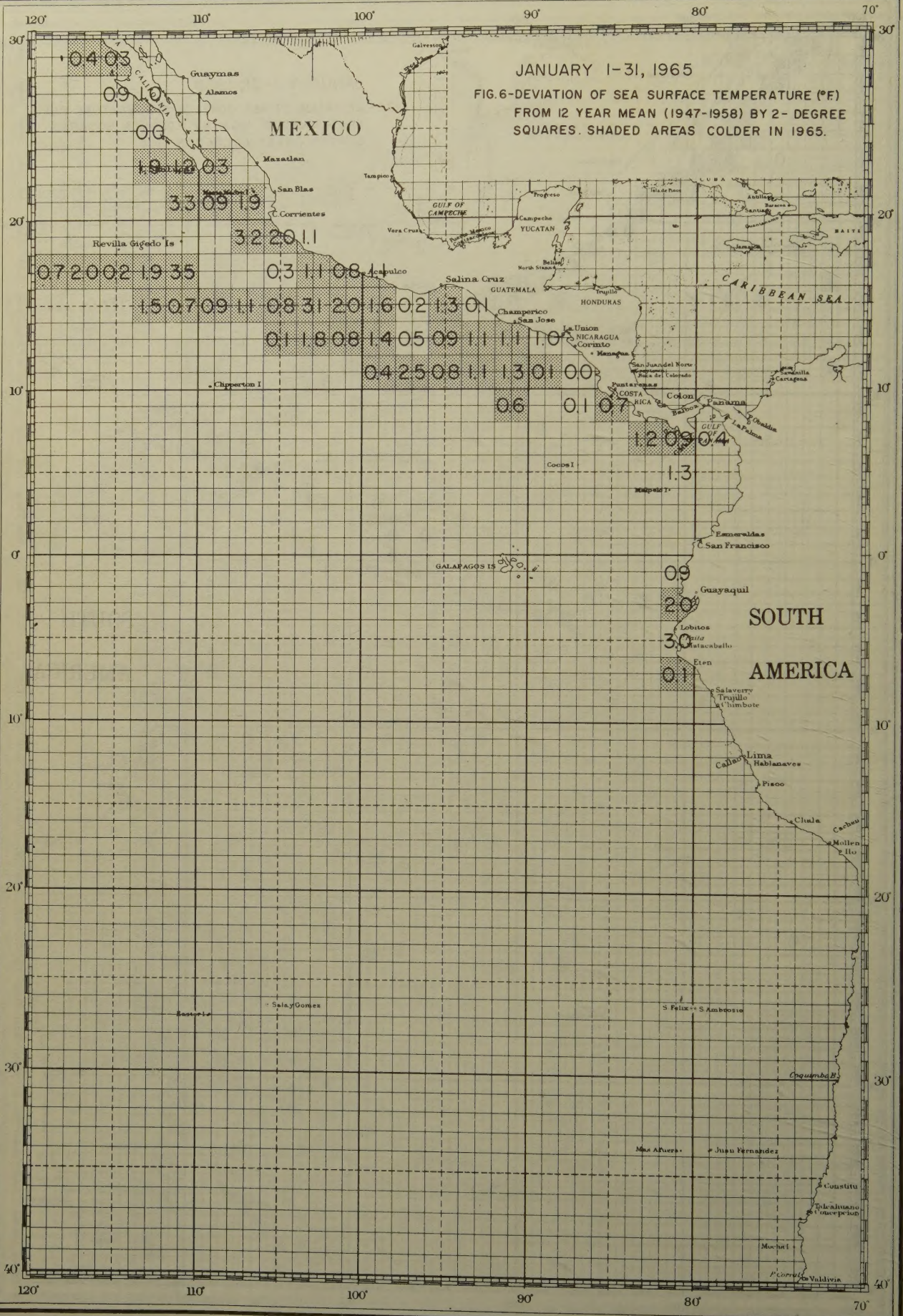
FIG. 3- DEVIATION OF SEA SURFACE TEMP (°F)
FROM JANUARY 1964. HATCHED AREAS
COLDER IN 1965.



JANUARY 1-31, 1965
FIG. 4-SEA SURFACE TEMPERATURES (°F)
BY 1-DEGREE SQUARES.







JANUARY 1-31, 1965
FIG.6-DEVIATION OF SEA SURFACE TEMPERATURE (°F)
FROM 12 YEAR MEAN (1947-1958) BY 2- DEGREE
SQUARES. SHADED AREAS COLDER IN 1965.